CHAPTER FIVE

SUMMARY AND RECOMMENDATIONS

5.1 <u>Introduction</u>

This chapter presents a summary of the findings discussed in the previous chapter. It also contains the conclusions, recommendations and suggestions for future research.

There were a number of limitations in this study. First of all, there was a lack of previous research particularly in the area of information gathering via the Internet. Secondly, the data obtained in this study were mainly observable data. Hence, the actual cognitive processes of the subjects could not be ascertained. Also, due to constraints of time and space, the research population consisted of only 20 subjects. As such, the results of this study cannot be generalized or taken to represent a larger population. Apart from that, the subjects' English proficiency was gauged based on their SPM English examination results, which were two years old at the time of the study. Therefore, there is a possibility that their SPM English results did not correspond with their actual English proficiency levels at the time of the study. And finally, since this is a qualitative study based predominantly on the observation method, the extent to which the factors affecting the subjects' performance in the Internet information gathering activity could not be determined.

5.2 Summary of the Findings

In Chapter Four, the findings and discussion were presented in great detail in relation to each research question. The following is a summary of the findings and discussion of each research question.

Research Question 1

"Do students of differing English proficiency levels perform differently in an Internet information gathering activity?"

The results of this study have shown that students of differing English proficiency levels do indeed perform differently in an Internet information gathering activity. The Internet information gathering activity used was an Internet treasure hunt. It was discovered in this study that the students with higher English proficiency outperformed the students with lower English proficiency in terms of the number of correct answers obtained and the length of time taken to complete the treasure hunt.

In general, the subjects with higher English proficiency levels did better than the subjects with lower English proficiency levels in terms of the number of correct answers obtained and the length of time taken to complete the activity. However, this study has also shown that there were some exceptions to this general observation.

Three subjects from the group with lower English proficiency levels obtained high scores in the Internet treasure hunt. This could have possibly been due to

the fact that they had more prior experience with computers and the Internet and also all three listed browsing as their main Internet activity. In other words, these three subjects were very comfortable with the Internet information gathering activity used in this study. The subjects were categorized into two groups – one with higher English proficiency and the other with lower English proficiency – based on their grades obtained in their SPM English paper. Therefore, another possibly reason for their performance could be that their English proficiency levels had improved since their SPM examinations.

Besides the three exceptions mentioned in the previous paragraph, there were also four other exceptions in the form of another four subjects who obtained low scores in the Internet treasure hunt in spite of their high English proficiency levels. Their performance could have possibly been due to the fact that they had less prior experience with computers and the Internet. Apart from this, none of these four subjects listed browsing as their main Internet activity. Rather, their main Internet activity was listed as either e-mailing or chatting. Therefore, it is also possible that the activity the subjects engaged in most whilst online had an effect on their performance in the Internet information gathering activity.

The results of this study have also shown that despite the differences in the outcome of the Internet treasure hunt, all 20 subjects took a linear pathway to complete the Internet information gathering activity. In other words, all the subjects, regardless of their English proficiency level, began with the first question and progressed sysfematically down the list to the final question.

An interesting observation made during the course of this study was that some of the subjects were more visual than the others. Six out of the 20 subjects obtained the answer to question 4b in the Internet treasure hunt by studying the map in the web page and thus obtained their answers via the visual input instead of the textual input which was also present further down in the web page. Interestingly, all six of these "visual" subjects were male.

Research Question 2

"What are some of the possible factors that influenced their performance?"

The results of this study yielded five possible factors that could have influenced the performance of the subjects in the Internet treasure hunt.

The first possible factor is related to language. It was found that the main reason behind the difference in the results of the Internet treasure hunt between the two differing English proficiency groups appears to be language related, namely vocabulary and the phrasing of the questions. This study has shown that many of the subjects from the group with lower English proficiency could not answer some of the questions correctly due to their inability to understand the questions and certain words and phrases.

The second possible factor is related to the prior experience of the subjects in terms of computer and Internet use. It was found that all the subjects with high scores in the Internet treasure hunt had been using computers for at least two years. The majority had also been using the Internet for more than three years.

As for the subjects with low scores, the majority had been using computers and the Internet for only 1-2 years. This seems to indicate that the more prior experience the subjects had, the better their performance was in the Internet information gathering activity. This could be due to the fact that the more experienced Internet users were more familiar and comfortable with the medium, giving them an added advantage over the less experienced Internet users.

The third possible influential factor is the main Internet activity of the subjects. Although the second factor points to prior experience being a possible influence, it is also important to note that *what* the subject has been doing whilst logged on to the Internet is just as important, if not more important than *how long* the subject has been using the Internet. Interestingly, the three subjects who obtained high scores in the Internet treasure hunt in spite of their low English proficiency had listed browsing as their main Internet activity. And, none of the four subjects who obtained low scores in the Internet treasure hunt in spite of their high English proficiency had indicated that their main Internet activity was browsing. The main Internet activity of these four subjects was listed as either e-mailing or chatting. This appears to indicate that, apart from prior experience, the main Internet activity of the subject also has a bearing on the outcome of the Internet information gathering activity.

The fourth possible factor is related to the interface design of the web pages involved in the Internet treasure hunt. Some of the more "visual" subjects found the answer to one of the questions via the visual input (map) as opposed to the

textual one. Many of the subjects could not obtain the answers to the section based on the Shakespeare website due to the fact that it was very text-oriented and rather difficult to read. This could have been due to the fact that the text-oriented website caused the subjects to suffer from disorientation and cognitive overload (Schroeder, 1994).

The fifth and final possible influential factor is related to the individual differences within each subject. Two of the subjects were found to have had certain assumptions which led to their inability to answer certain questions correctly. Apart from assumptions, carelessness was also noted to have influenced the outcome of the Internet treasure hunt for three of the subjects. Their carelessness was displayed in terms of not reading the questions properly and reading too quickly and thus misinterpreting the questions. Therefore, their carelessness in reading the questions led to a decline in their performance in the Internet information gathering activity. One other individual difference was displayed by a particular subject who belonged to the group with higher English proficiency. After spending almost 40 minutes on the activity and only obtaining two correct answers, the subject began to feel extremely de-motivated. Lacking the perseverance to strive on, she chose to give up without completing the Internet treasure hunt.

5.3   Conclusions

The findings of this study have shown that students of differing English proficiency levels do perform differently in an Internet information gathering activity. While it is undeniable that English proficiency plays a very important

role in effective Internet information gathering, this study has indicated that there are also many other possible factors which can influence the success of the task. The findings seem to indicate that one's ability to gather information efficiently via the Internet does not only depend on adequate English proficiency. This study has shown that other possible factors such as prior experience, main Internet activity, interface design and individual differences can also influence the outcome of the Internet information gathering activity.

5.4   Recommendations

Since this study involved a small research population, the results cannot be generalized. Nonetheless, this study has yielded some very interesting results which could be taken into consideration by teachers engaged in using the Internet to teach English as well as policy-makers who wish to incorporate the use of the Internet into their curricula.

It cannot be denied that we are now very much in the information and communications technology (ICT) age. The Internet, in itself, is an ideal tool for teaching and learning simply because students are motivated by it and are excited about it (Fox, 1998). The Internet is an ideal vehicle for the teaching and learning of English because, once connected, students quickly realize that not only is the world connected together through the use of this technology, but the majority of the information available on the Internet is in English. This helps them to appreciate in more concrete terms the importance and usefulness of acquiring English language skills. In other words, English is taken to a new level

– that is, it becomes an indispensable skill that will be useful later in life (Fox, 1998).

Recognizing this, teachers have come to accept the Internet as a useful tool for teaching and learning. Teachers are now using the Internet to help students learn English by using e-mail, discussion groups and even creating homepages (Fox, 1998; Muehleisen, 1997; Singhal, 1997; Trokeloshvili & Jost, 1997).

It follows then, that students should be thoroughly equipped to use the Internet efficiently. According to Fox (1998), students may not have the necessary IT skills to handle the use of the Internet. It is crucial that students develop a certain sense of familiarity with the Internet because it has become an indispensable tool for them to carry out research and gather information for assignments and projects or simply for further reading on topics of interest.

Before introducing students to the Internet, which might very well be absolutely foreign to them, teachers should ensure that the students are equipped with the necessary IT skills to cope with the medium. IT skills and familiarity with the Internet may vary significantly from one student to another. Therefore, it is of utmost importance that students are given adequate guidance – preferably in a face-to-face learning environment – on how to make optimal use of the vast resource that is the Internet. As Lee (2000) suggests, teachers should observe their students' IT skills and provide additional instruction and practice for those who have limited skills. Teachers who are actively involved in the online

activity will reinforce the use of the Internet and help students who are not technologically adept to refine their skills (Fox, 1998).

Since this study has identified interface design as a possible factor which can affect the performance of students in an Internet information gathering activity, content developers should ensure that the design, layout and interface of the web pages are user-friendly and unambiguous. Apart from that, they should also bear in mind the individual differences which exist in each user and design web pages which cater, as far as possible, to these differences. This will go a long way towards helping students gather information via the Internet more effectively.

5.5   Suggestions for Future Research

This study has produced some interesting results which may be used by future researchers who might wish to delve deeper into this area of research.

Five possible factors have been discovered to play a role in information gathering via the Internet. The possible factors which have been identified are: language related factors, prior experience, main Internet activity, interface design and individual differences. However, further quantitative studies need to be carried out to ascertain the extent of the influence of these factors on actual performance in an Internet information gathering activity.

Since it was found in this study that some of the subjects were more "visual" than others and that interestingly, all these "visual" subjects were male, perhaps

some further quantitative research could be carried out in the area of gender and Internet information gathering.

This particular area of research is still very much in its infancy. Therefore, there is ample room for further research to shed more light on the intricacies of the seemingly simple act of gathering information via the Internet.